Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A method for determining down-regulation of gene expression of a human immunodeficiency virus (HIV) coreceptor, comprising the steps of:

a) culturing cells capable of expressing said HIV coreceptor;

b) dividing said cultured cells into a plurality of groups;

c) introducing amounts of Product R at concentrations between 0 to 100% to said plurality of groups of cultured cells, respectively, by electroporation;

d) culturing said plurality of groups of said electroporated cells;

e) preparing total RNA from each of said groups of said cultured electroporated cells after step d;

f) reverse-transcribing mRNA of said HIV coreceptor from each of said total RNA by a reverse transcription-polymerase chain reaction (RT-PCR) to produce an RT-PCR product; and

g) measuring the amount of said RT-PCR product produced from each of said groups of said cells; and

h) comparing the amount of said RT-PCR product produced from each of said groups with each other, whereby a smaller amount of said RT-PCR product correlates with a lower level of said expression, wherein Product R is ~~a synthesized preparation that contains a mixture of peptide nucleic acids, breakdown components of bovine serum albumin, and free nucleosides~~ made by a process comprising the steps of:

(i) mixing 34.1 to 35.9 grams casein, 16.7 to 17.5 grams of beef peptone, 21.4 to 22.6 grams of ribonucleic acid (RNA), 3.17 to 3.33 grams of bovine serum albumin, 2.44 to 2.56 liters of water, and 16.1 to 16.9 grams of sodium hydroxide;

(ii) autoclaving the mixture from step (i) until RNA is completely digested;

(iii) cooling the product from said step (ii) for at least six hours at 3-8°C, said cooled product comprising solids;

(iv) removing said solids from the product from said step (iii);

(v) adding water to the product from said step (iv) to create a final volume of about 5 liters;

(vi) adjusting the pH of the product from said step (v) to pH 7.3-7.6; and

(vii) autoclaving the pH-adjusted product of step (vi).

2. (previously presented) The method of claim 1, wherein said HIV coreceptor is CCR5.

3. (previously presented) The method of claim 1, wherein the measuring of the amount of said RT-PCR product is determined by electrophoresis.

4. (previously presented) The method of claim 1, wherein said electroporated cells are cultured for about 14 hours to about 18 hours.

5-6. (canceled)

7. (currently amended) A method for determining down-regulation of gene expression of a human immunodeficiency virus (HIV) coreceptor, comprising the steps of:

a) dividing cells capable of expressing said human HIV coreceptor into a plurality of groups;

b) introducing amounts of Product R at concentrations between 0 to 100% into said plurality of groups of said cells, respectively, by electroporation;

c) reverse-transcribing mRNA of said HIV coreceptor from each of said groups of said cells by a reverse transcription-polymerase chain reaction (RT-PCR) to produce an RT-PCR product; and

d) measuring the amount of said RT-PCR product produced from each of said groups of said cells; and

e) comparing the amount of said RT-PCR product produced from each of said groups with each other, whereby a smaller amount of said RT-PCR product correlates with a lower level of said expression, wherein Product R is ~~a synthesized preparation that contains a mixture of peptide nucleic acids, breakdown components of bovine serum albumin, and free nucleosides~~ made by a process comprising the steps of:

(i) mixing 34.1 to 35.9 grams casein, 16.7 to 17.5 grams of beef peptone, 21.4 to 22.6 grams of ribonucleic acid (RNA), 3.17 to 3.33 grams of bovine serum albumin, 2.44 to 2.56 liters of water, and 16.1 to 16.9 grams of sodium hydroxide;

(ii) autoclaving the mixture from step (i) until RNA is completely digested;

(iii) cooling the product from said step (ii) for at least six hours at 3-8°C, said cooled product comprising solids;

(iv) removing said solids from the product from said step (iii);

(v) adding water to the product from said step (iv) to create a final volume of about 5 liters;

(vi) adjusting the pH of the product from said step (v) to pH 7.3-7.6; and

(vii) autoclaving the pH-adjusted product of step (vi).

8. (previously presented) The method of claim 7, wherein said cells capable of expressing said HIV coreceptor are selected from the group consisting of H9 and U937 cell lines.

9. (previously presented) The method of claim 1, wherein said cells capable of expressing said HIV coreceptor are selected from the group consisting of H9 and U937 cell lines.

10. (currently amended) A method for determining down-regulation of gene expression of a human immunodeficiency virus (HIV) coreceptor, comprising the steps of:

a) culturing cells capable of expressing said HIV coreceptor;

b) introducing Product R at ~~a~~ concentrations between 0 to 100% to respective groups of said cultured cells by electroporation;

c) culturing said electroporated cells;

d) preparing total RNA from said cultured electroporated cells after step ~~d~~ c;

e) reverse-transcribing mRNA of said HIV coreceptor from said total RNA by a reverse transcription-polymerase chain reaction (RT-PCR) to produce an RT-PCR product; ~~and~~

f) measuring the amount of said RT-PCR product produced from said cells; and

g) comparing the amount of said RT-PCR product produced from each of said groups with each other, whereby a smaller amount of said RT-PCR product correlates with a lower level of said expression, wherein Product R is ~~a synthesized preparation that contains a mixture of peptide nucleic acids, breakdown components of bovine serum albumin, and free nucleosides~~ made by a process comprising the steps of:

(i) mixing 34.1 to 35.9 grams casein, 16.7 to 17.5 grams of beef peptone, 21.4 to 22.6 grams of ribonucleic acid (RNA), 3.17 to 3.33 grams of bovine serum albumin, 2.44 to 2.56 liters of water, and 16.1 to 16.9 grams of sodium hydroxide;

(ii) autoclaving the mixture from step (i) until RNA is completely digested;

(iii) cooling the product from said step (ii) for at least six hours at 3-8°C,

said cooled product comprising solids;

(iv) removing said solids from the product from said step (iii);

(v) adding water to the product from said step (iv) to create a final volume of about 5 liters;

(vi) adjusting the pH of the product from said step (v) to pH 7.3-7.6; and

(vii) autoclaving the pH-adjusted product of step (vi).